

experience of autochrome work extending over hundreds of exposures from the time of the arrival of the first box of plates on this coast, has convinced me that a strict adherence to the directions of the makers as first promulgated offers the best means of success. The *sine qua non* of success in color photography is, first, always to work under fixed conditions; second, is always make two exposures and develop the second exposure in the light of the experience gained by the first. My best results are obtained by exposure in direct sunlight—3 to 6 seconds—and pyro-ammonia development. A new color plate made by the Paget Company offers the advantage of being more rapid and better for projection.

Photomicrographs.—The making of photomicrographs may not at present be a necessary part of the medical man's duties, but as we grow in the habit of relying on pathological data we shall more and more desire personally to interpret our material and keep records thereof. I am therefore tempted to endeavor to prove to all of you that the making of photomicrographs is a simple process, and to draw the attention of those members of the Society who are engaged in teaching histology and pathology to a new method of making photomicrographic slides for hand inspection and projection, that offers advantages over the regulation slide.

The average man who has read descriptions of the technic of making a photomicrograph is usually obsessed with visions of complicated apparatus which may be obtained for \$500 or so and still more complicated procedures to be applied to the same. The light has to pass through monochromatic-special filters for given stains. Illumination must be what is called "critical" and so on. All this is very nice and for certain lines of work possibly necessary. But I have here on the table (and some I will now project on the screen) 100 specimens of photomicrographs on glass of stained tissues, all the common organs and diseases under all kinds of staining and magnification, from 10 diameters to 1000, and they have all been made by uniting the tube of an ordinary microscope to an ordinary 5x7 camera by means of a piece of pasteboard that is not even light tight, and with no other illumination than that of an ordinary Tungsten incandescent bulb; often without a condenser. I will now set the apparatus up and will make the negative for a photomicrograph for you in the course of a few minutes. As to quality, the specimens here shown must be the answer. All that the best illustrations show are here present and many of these plates are indistinguishable from the microscopic fields of which they are the exact duplicates. I thus demonstrate to you that all of you can make photomicrographs with ease, and with everyday apparatus. The lantern slides made from these negatives are made by a modification of the Traube process described by me in *Camera Craft*.

I shall be happy to help any one desiring to use the same.

REPORT OF A CASE OF OIDIOMYCOSIS.*

By W. W. ROBLEE, M. D., Riverside.

Patient: Full-blooded Yuma Indian, age eighteen, reported at the morning clinic at the Sherman Institute Indian School, October 1, 1913. He complained of a sensitive spot over the outer side of the head of the left tibia; some swelling was present and no fluctuation. There was no history of an injury to the knee although he had been doing a great deal of running prior to the development of his disability. In other respects the boy was in good physical condition. So far as he remembered when questioned later, he had had no cough or other disability. He had always been a hearty, rugged lad. The knee was bandaged; he was advised to use it as little as possible and ordered to report regularly for observation. The soreness seemed to gradually increase; he was given a pair of crutches and kept at the hospital. A tentative diagnosis of tuberculosis of the affected part was made and he was placed on Syrup Ferrous Iodide internally.

He developed an irregular temperature and during the first week in January fluctuation was detected in the swelling. I made a small incision under ethyl chloride local anesthesia, expecting to evacuate a cold abscess, but very much to my surprise nothing but venous blood, both liquid and clotted, was discharged. The swelling became greater; there was a constant bloody oozing from the small opening and on January 6th, under general anesthesia, I made two free incisions over

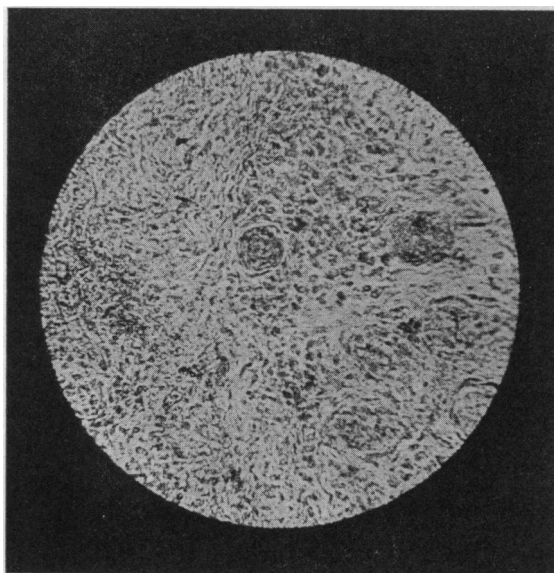


Plate I.

the head of the tibia. Large quantities of blood clots were scraped out with the gloved finger, a soft granulating mass was found subcutaneously but the bone was found not to be involved. At no point was the periosteum eroded. I packed the cavity and had no more free hemorrhage but there was, from that time on, a serosanguinous discharge from the wound. The edges of the linear incision on the outside of the leg gradually gave way until when last seen by me, there was a round ulcerated surface three by 2½ inches in diameter. About ten days later, a fluctuating mass developed in the right axilla and another over the left clavicle. These were incised; the axilla swelling contained blood clots, but the clavicular swelling contained creamy pus.

The boy was losing steadily in weight and was

* Read at the Forty-fourth Annual Meeting of the Medical Society, State of California, Santa Barbara, April, 1914.

running a low, irregular temperature, ranging from 98° to 101°, with an occasional jump to 103°. Specimens of the granulation tissue showed granulomata with giant cells and I continued to call it a tuberculous infection. Happening to be in the office of my friend, Dr. Brem, I mentioned the case to him, the hemorrhage feature of the case having puzzled me from a clinical standpoint, and he mentioned having seen a similar condition in a case of coccidioidal granuloma. Upon returning home, I at once began investigating the case from that standpoint and, with the help of Dr. Thos. R. Griffith, who made and stained numerous tissue slides for me, which were found to contain the

in various portions of the body, some eleven in all while under my observation. These were not painful; all when incised discharged a thick, creamy pus, except three; the original sore on the left knee, the one in the right axilla and one to the left of the spine opposite the last dorsal vertebra. These three were of the hemorrhagic type. The one on the back bled so freely one night that the nurse called me, considerably alarmed over the boy's condition. These three sores all developed circular ulcers. The tendency of the other abscesses was to heal; the hemorrhagic sores showed no such tendency. I placed the boy on generous doses

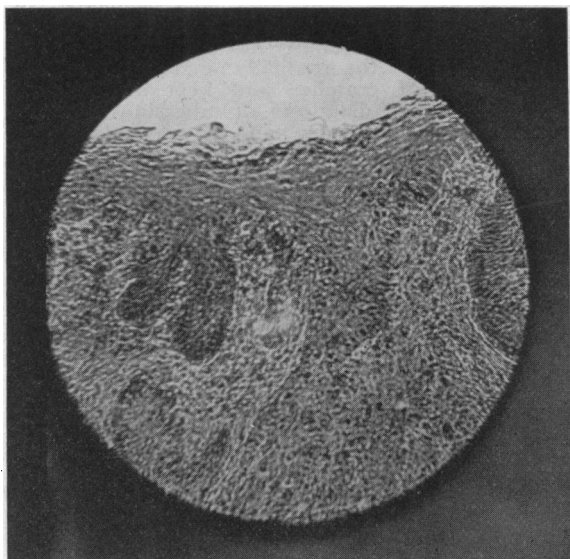


Plate II.

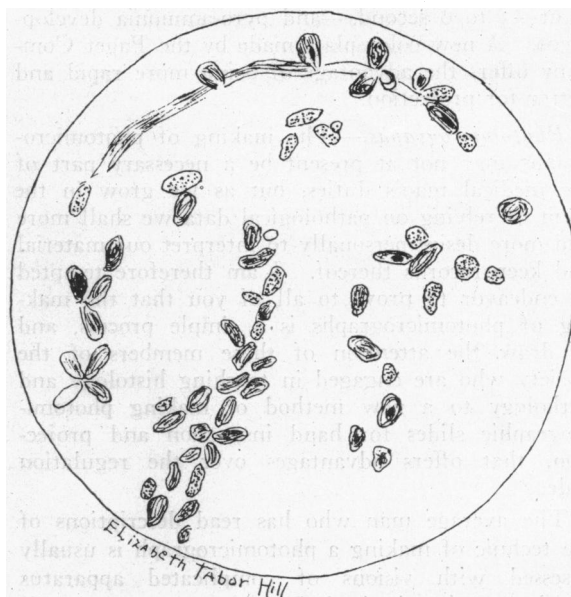


Plate IV.
Blood Culture of Patient With Oidiomycosis.



Plate III.

Mycelial Form of Oidia on Artificial (Solid) Culture Media.

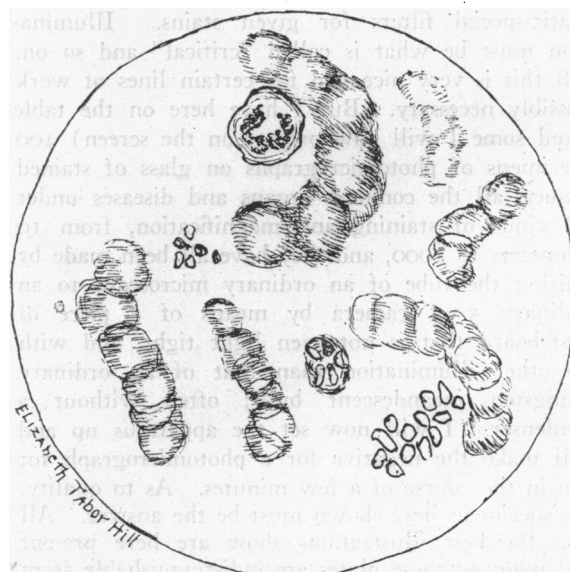


Plate V.

Direct Smear of Blood From Patient With Oidiomycosis.

encapsulated organisms, and having found the mycelial growth in a culture, we came to the conclusion that we had a case of oidial infection. Having read with much interest a reprint of an article on infections by saccharomycetes, by Dr. Lorena Breed, of Pomona, I called her attention to the case. She at once took a great interest in it and most of the laboratory findings submitted herewith were the result of her work.

The boy went on developing superficial abscesses

of K. I. and the pus from the abscesses showing a staphylococcus albus infection, a vaccine was made by Dr. Breed, which was administered to him. He continued to decline, and as it is the policy of the Indian service to send children, who are expected to die, home, if possible, he was sent to his home in Yuma, February 18th, and a report from there stated that he died one month later.

LABORATORY REPORT.

Skin sections taken from edge of wound showed:

1. Numerous double encapsulated bodies filled with spore-like granules. These vary greatly in size and are identical in appearance with those described by Rixford and later by Ophüls in the original reports on coccidioid granuloma. Plate I.

2. Numerous giant cells and granulomatous areas identical with those found in tuberculosis.

3. A dipping in of the epithelial layers which is so well marked that it could easily be mistaken for epithelioma. In fact, slides from epithelioma placed by the side of this specimen showed an identical arrangement except that no detached epithelial pearls were observed. Plate II.

In none of the tissue sections have we seen a positive budding process as described in blastomycosis, or a breaking of the capsule with a letting free of the contained granules as described by Rixford in coccidioid granuloma, although in one

very tenacious growth which, under the microscope, showed a mycelial development. Plate III.

Blood culture in glucose buillon was positive and gave a coarse budding growth. Plate IV.

This blood culture was controlled very carefully in so far as contaminations of media are concerned. Tests were made with normal blood, the culture media was examined and no trace of a saccharomycete was found in any specimens except those taken from this patient.

Blood Examination.

Hemoglobin	30%
Erythrocytes	3,100,000
White cells	18,000
Leukocytes	70%
Lymphocytes	30%
Coagulation time	24 minutes

This developed one of the very interesting features connected with this case. There was found all through this boy's blood, and showing clearly in the stained smear, numerous coarse granular bodies that are identical in appearance with the saccharomycetes. Plate V. The boy's ear was washed with alcohol and the smear very carefully taken. The stains were tried on other blood specimens and these granular bodies were not found therein, and in so far as the exercise of extreme care would eliminate outside contamination of these specimens, it is certain that the blood on the slide is as it came from the boy.

We are prepared to say quite positively that this is a saccharomycete circulating in the boy's blood, and it is a point that should be noted in the study of future cases of this kind, as heretofore no such blood conditions have been reported. Coagulation time was 24 minutes plus. This probably accounts for the hemorrhagic tendency found in this case and is a point not heretofore brought out in the consideration of these cases. The new points observed in this case and which I believe justify its report are:

1st. No apparent atrium of infection. The boy at no time had a cough or any chest symptoms and no wound about the knee so far as he remembers.

2nd. The hemorrhagic condition found upon incising these swellings.

3rd. The tendency for the ulcers to enlarge. Plate VI.

4th. The close resemblance of the skin sections to both tuberculosis and epithelioma.

5th. The apparent finding of a saccharomycete in the circulating blood, which brings up the question of relationship as between the oidia and the yeasts. One very soon becomes lost in a maze of uncertainty when he undertakes to study out the nomenclature of these organisms. The botanists do not agree and the medical men are worse mixed than are the botanists. Any point which may throw light upon the family relationship is well worth careful elucidation.

6th. The very long coagulation time of the blood, which probably accounts for the tendency toward hemorrhages.

7th. I am convinced that infections by the yeast and related organisms are more frequent than we have heretofore believed. Doubtless, many cases are tagged "tuberculosis" and die undiagnosed, as probably would have been the case with this boy but for the chance conversation with Dr. Brem, who stated that he was mistaken for some time in the case that he had seen. Dr. Breed has given especial attention to these organisms and has found them very frequently in cases referred to her in Pomona, and she feels that they are responsible for many heretofore unexplained cases. A reading of her monograph on the subject is well worth while.

In conclusion, I want to thank both Dr. Breed and Dr. Griffith for their great assistance in working up this case.



Plate VI.

Photograph of Knee of Patient With Oldiomycosis.

or two places some of the granular organisms appear to have broken through. It is difficult to be certain whether the condition observed may not be due to the handling of the tissues necessary for sectioning. Further animal experiments are being made to settle this point.

Animal Experiment.

Rabbit inoculated intra-peritoneally developed a gradual loss in weight and strength. It was killed in four weeks and the liver was found to be covered with granulomata.

Cultures—Blood serum with Agar gave a grayish,